(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization

International Bureau



(43) International Publication Date 14 July 2005 (14.07.2005)

PCT

(10) International Publication Number WO 2005/064371 A1

(51) International Patent Classification⁷: 6/14, 6/30

G02B 6/12,

(21) International Application Number:

PCT/EP2003/051108

(22) International Filing Date:

29 December 2003 (29.12.2003)

(25) Filing Language:

English

(26) Publication Language:

English

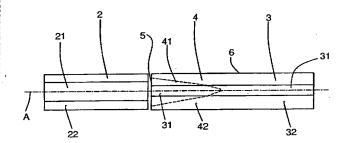
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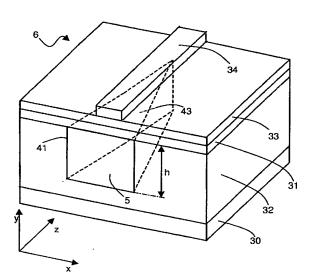
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- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,

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(54) Title: OPTICAL COUPLING DEVICE





(57) Abstract: An optical mode converter comprises a coupling waveguide (4) and a receiving waveguide (3). The coupling waveguide has at an input end a first effective refractive index n_{1eff} and includes a tapered core (41) of a substantially constant refractive index n₁ with a substantially square cross section at the input end (5), having a size that tapers down moving away from the input end. The coupling waveguide has also a cladding (42) at least partially surrounding the tapered core. The receiving waveguide has a second effective refractive index n_{2eff} at an output end and comprises a core (31) of a substantially constant refractive index n₂, greater than the refractive index n_1 of the tapered core (41) of the coupling waveguide, and a cladding (32) at least partially surrounding the core. A side surface (43) of the tapered core of the coupling waveguide (4) is optically in contact, in a coupling portion, with the receiving waveguide (3) so as to allow optical coupling between the coupling waveguide (4) and the receiving waveguide (3). The refractive index n_1 of the tapered core of the coupling waveguide (4) is selected so that the first effective refractive index n_{leff} and the second effective refractive index n_{2eff} differ from each other in absolute value less than 30% of the difference (n2 - n2eff) between the core refractive index and the effective refractive index of the receiving waveguide (3). A method for fabricating an optical tapered waveguide is also disclosed.

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ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

— of inventorship (Rule 4.17(iv)) for US only

Published:

- with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.